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EX PARTE NOTICE

VIA ECFS
Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

GN Docket Nos. 09-47, 09-51, 09-137, and RM-11358

Dear Ms. Dortch:

Overture Networks is a leading developer and manufacturer of Carrier Ethernet products for communications service providers. Our customer base includes 7 of the top 9 ILECs and 8 of out the top 9 CLECs in the U.S., as well as many Tier 1 / Tier 2 international carriers. We are submitting this document to provide our perspective on the Ethernet over Copper (EoC) market and technology. It is our conviction that Ethernet over Copper for delivery of IP services is a critical component for the Commission's National Broadband Plan and its goal to "Undertake a comprehensive review of wholesale competition rules to help ensure competition in fixed and mobile broadband services," and that as a result the Commission must ensure that copper loops are available for the U.S. to remain competitive in the global market.

Executive Summary

To help the Commission understand the importance of the issue of Copper retirement, this document will show that Ethernet over Copper is a significant and widely deployed next generation technology that is critical to the Commission's National Broadband Plan and the migration from legacy to Ethernet/IP services. In particular, it shows that ***Ethernet over Copper is a means to deliver IP, and not a legacy TDM technology***.

To support this position, we answer the following questions:

- How does Ethernet over Copper accelerate adoption to IP?
- What happens when a business decides to transition from legacy services to IP services delivered over Ethernet?
- Is Ethernet over Copper fast enough?
- Is Ethernet over Copper widespread?
- How big is the Ethernet over Copper market?
- How does Ethernet over Copper promote innovation?
- Does Ethernet over Copper accelerate job growth?
- What is happening outside the U.S.?
- What happens if copper is retired prematurely?

How does Ethernet over Copper accelerate adoption to IP?

Carrier Ethernet is emerging as the technology of choice for transporting data, voice and video IP services. Carrier Ethernet is a packet technology that enables systems to take advantage of silicon economics in switching and processing. Carrier Ethernet can be delivered over any media, including fiber or copper. Ethernet over Copper is a widespread technology deployed by both ILECs and CLECs to complement their Ethernet over Fiber offerings. It is important to have access to both technologies, since fiber is deployed to only 31% of business locations with greater than 20 people, according to Vertical Systems (see Figure 1).

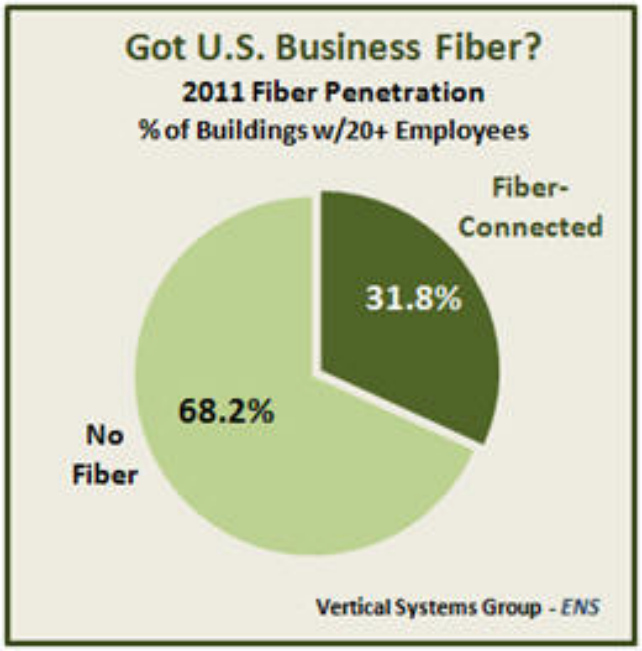

Figure 1 - Deployment of Fiber

What happens when a business decides to transition from legacy services to IP services delivered over Ethernet?

Regardless of whether it is a single location or multi-location business, a business that cannot get Ethernet/IP to all of its sites will not make the change to next generation services and will stay with the legacy services. Because Ethernet over Copper can fill in the gaps for 69% of business locations, having access to copper loops is critical for accelerating the adoption of IP-based services. Ethernet over Copper is the way to bring IP to the mass market.

Is Ethernet over Copper fast enough?

Ethernet over Copper is a viable technology for delivering bandwidths from 10Mb/s to over 100Mb/s. There are two approaches used: 1) symmetric G.SHDSL and 2) asymmetric DSL.

Symmetric G.SHDSL provides the same bandwidth in both directions. Advances in DSL modem technology now enable 15Mb/s per pair at up to 2,000 feet. Performance degrades gracefully and speeds greater than 4Mb/s per pair at up to 6,000 feet are common.

Typically, when Ethernet over Copper is used, bundles of 4, 8 or more pairs are logically bonded to create a high-speed pipe. Service providers routinely offer services ranging from 40Mb/s to 100Mb/s and in some cases have deployed 200Mb/s using G.SHDSL (see Figure 2).

The other approach used for Ethernet over Copper is asymmetric DSL, such as ADSL2 or VDSL2. With VDSL2, downstream speeds of over 20Mb/s per second on a single pair are

possible up to 6,000 feet. When pairs are bundled, a noise cancellation technique called vectoring enables service delivery of several hundred megabits per second at useful distances.

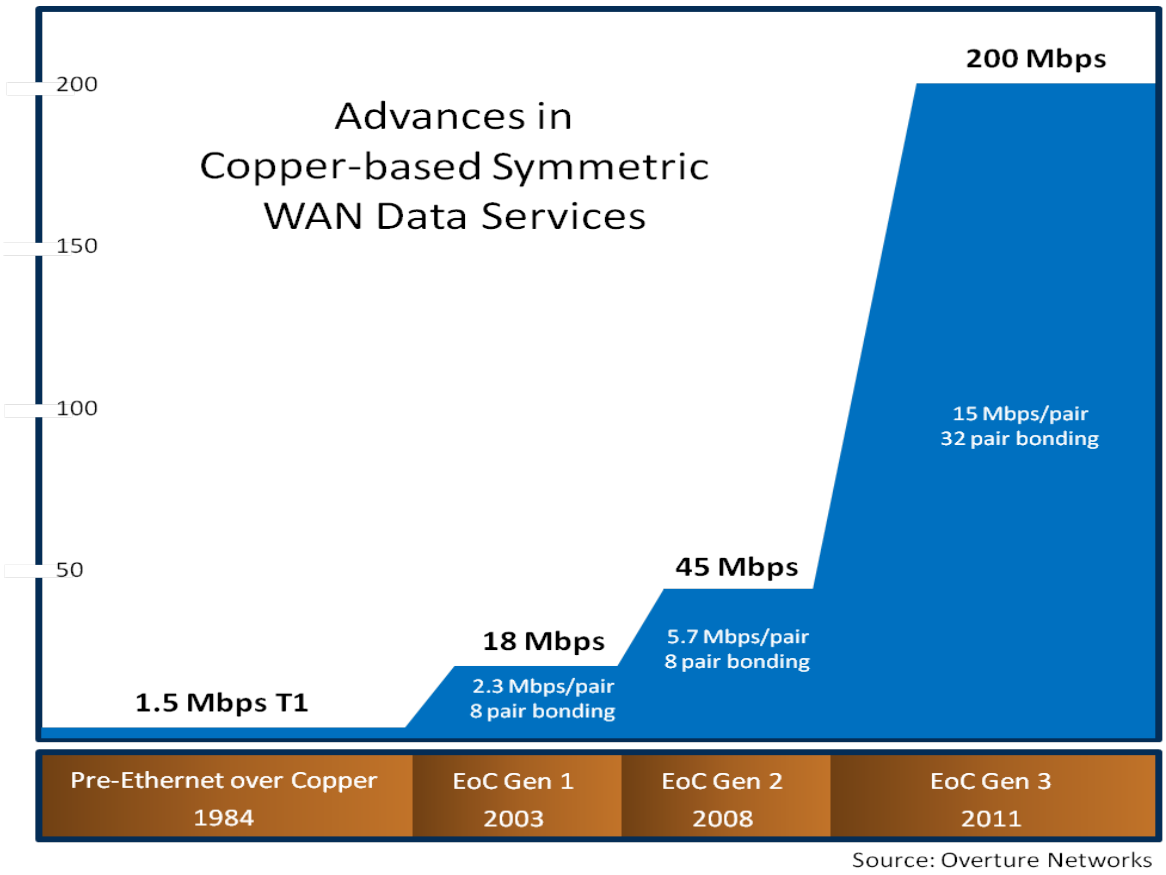

Figure 2 – Ethernet over Copper Advances

Is Ethernet over Copper widespread?

Ethernet over Copper has become a mainstream technology for most ILECs and CLECs. ILECs with Ethernet over Copper service offerings include: AT&T, CenturyLink, Windstream, Frontier, and TDS. CLECs deploying Ethernet over Copper include: XO, Alpheus, Integra Telecom, Megapath, Telepacific and Allied Telecom. Other service providers, such as Verizon, that do not offer their own service often buy wholesale Ethernet services from Ethernet over Copper partners in an arrangement called E-Access.

How big is the Ethernet over Copper market?

According to Infonetics Research, the number of ports deployed for Ethernet over Copper services has been growing at over 20% per year, and this will continue to grow at this pace at least through 2016 (last year of survey). In fact, each year more copper ports are deployed than fiber ports at a ratio of almost 2:1 (See Figure 3).

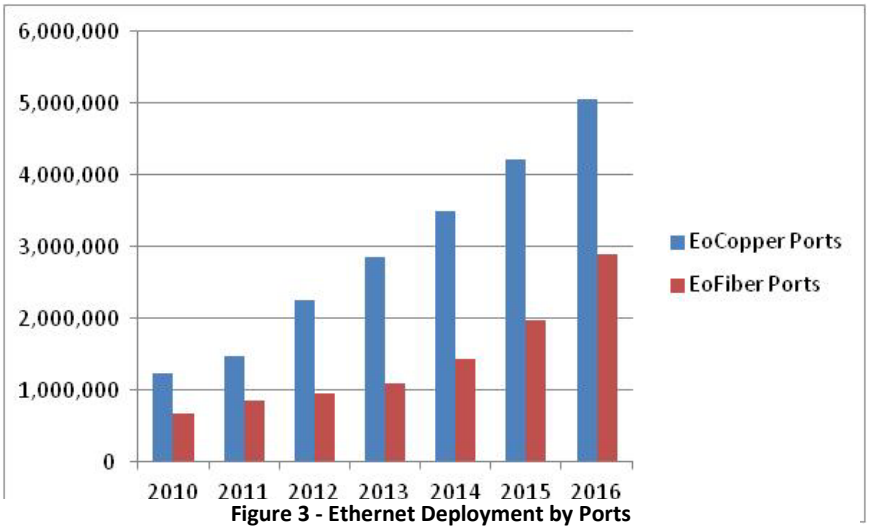

Figure 3 - Ethernet Deployment by Ports

This phenomenon of more copper ports than fiber ports for Ethernet is easy to explain. A company decides to transition to Ethernet/IP based services but only 31% of its buildings have access to fiber. Rather than sign another 3 year contract to keep its legacy services, the enterprise learns that it can get Ethernet /IP services to all of its locations from a carrier deploying a combination of both fiber and copper technologies. The result is that 2 out of every 3 buildings have the new services delivered by copper.

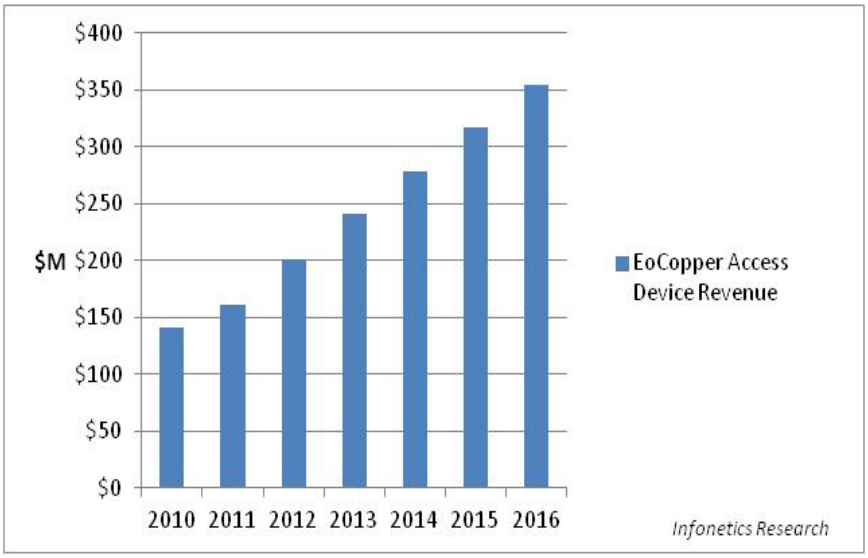

Figure 4 - Ethernet over Copper EAD revenue

When the market is looked at in terms of Carrier Ethernet Access Device (EAD) revenue, the revenue from fiber-based EADs is greater than copper-based EADs, because fiber EADs are more expensive. That said, the Ethernet over Copper EAD market was $160M in 2011 and is forecasted by Infonetics to grow a healthy 17% per year through 2016 (See Figure 4). In fact, the copper EAD market is the fastest growing technology in the EAD space.

How does Ethernet over Copper promote innovation?

When entire school districts, medical communities or businesses have access to the speed and flexibility of Carrier Ethernet, whether delivered over fiber or copper, the door opens for innovation. In education, Carrier Ethernet's ability to handle voice, data and video streams on a single network helps fulfill the promise of distance learning and fully networked school systems. In medicine, Carrier Ethernet's high speed and low latency enables physicians to remotely diagnose patients that are tens or hundreds of miles away and would otherwise not receive the benefit of expert treatment. In finance, the seamless nature of Carrier Ethernet enables distribution of computing and storage resources to provide disaster recovery and critical low latency transactions.

In almost any business, Carrier Ethernet helps remove time and distance barriers, enabling collaboration and productivity within and between companies. Ultimately this creates an environment for innovation, as people expand their circle of connect points and focus their talents on new ideas. The global community becomes more tightly knitted together, accelerating the sharing of knowledge and skills to improve the livelihood of all.

Does Ethernet over Copper accelerate job growth?

The transformation of the network to Ethernet/IP drives job growth in several areas. First, there are the service providers who depend on access to copper in order to promote its most advanced services. Second, there are the equipment manufacturers, such as Overture, Adtran and Actelis (all U.S. based companies), who produce Ethernet over Copper products as part of their network solutions portfolio. Third, there are the end-users that can take advantage of high speed connectivity to make their enterprises more competitive in the global marketplace.

What is happening outside the U.S.?

Ethernet over Copper is growing just as fast outside the U.S. In the U.K., British Telecom has been deploying Ethernet over Copper for wholesale services for a number of years and has more than 11,800 endpoints installed. In Mexico, TelMex has begun a large-scale Ethernet over Copper deployment. Overture is familiar with similar rollouts throughout Europe, Asia and Australia. All of these countries recognize the need to complement their fiber initiatives with copper in order to make available the most bandwidth to the most people in the shortest amount of time.

What happens if copper is retired prematurely?

Some of the ILECs have petitioned the Commission to start retirement of TDM services based on the availability of residential class IP services in some locations. We want to ensure that the Commission distinguishes legacy TDM services from modern Ethernet over Copper services that use unbundled copper. Based on the statistics shown above, a premature retirement of unbundled copper loops would have a devastating impact on the availability of advanced IP services for a large portion of the U.S. population.

Summary and Recommendation

This document has shown that Ethernet over Copper is a significant and widely deployed next generation technology that is critical to the Commission's National Broadband Plan and the migration from legacy to Ethernet/IP services. Any ILEC plan to decommission or retire legacy services which may run on copper (or fiber) should not impact access to copper in feeder facilities or distribution facilities by other service providers. This copper can be and will be used for next generation Ethernet over Copper services and will accelerate achievement of the Commission's broadband goals. In addition, Overture agrees with the Comptel Ex Parte Notice of September 7, 2012 urging the Commission to open a rulemaking proceeding to revisit its copper retirement policies so that all consumers are able to enjoy the benefits of competition and broadband services.

Respectfully submitted,

/s Jeff Reedy
Co-founder and Chief Strategy Officer
Overture Networks, Inc.

cc (via email):

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